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Population aging and care of the elderly in Latin America and the Caribbean

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Introduction

This paper focuses on the aging of the population in Latin America and the Caribbean region. It concentrates on the changing patterns of mortality and the associated issues of health care, social support and planning for an increasingly aging population.

The context in which population aging is now occurring

The population aging process which is now occurring in the developing world is of a very different nature from that which characterized aging in developed countries. What took over a century in Northern Europe is now compressed into a few decades.[1] The sharp decline in mortality rates is largely the result of medical interventions which have, on the whole, only been available in the last forty years.[2] Although poverty remains widespread, 'social' diseases such as tuberculosis, gastroenteritis and respiratory infections in childhood can now be treated, while for others, such as poliomyelitis or measles, effective primary prevention is available. Such 'technological' control of premature death is matched by the control of births. No longer are high educational levels required for successful family planning.[3] Powerful and effective contraceptive methods – oral contraceptives, intrauterine devices and surgical sterilization – can be delivered to millions of women at relatively low cost. In Brazil in 1986, for example, over two-thirds of all women aged between 15 and 44 years within an established sexual relationship were using a contraceptive method – usually surgical sterilization or oral contraceptives. Thus, a relatively high educational level and strong motivation are no longer required to make effective use of the rather inefficient contraceptive methods of the past. As a result, the total fertility rate (TFR) in Brazil declined from 5.6 in 1965 to 3.2 in 1990 and is expected to reach 2.4 by the year 2000 (the total fertility rate (TFR) is a measure of how many children a woman would bear if she experienced current prevalent age-specific fertility rates throughout her reproductive life).[4] In summary, higher life expectancy and fewer children equals population aging – but this can now be achieved within a few decades even in the absence of socio-economic development.[5]

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Dying is increasingly concentrated in old age

Mortality figures obviously provide only a limited picture of the health status of a population. However, detailed information on morbidity and/or disability at community level is largely absent for the whole of the American continent. Thus, limited as they may be, mortality data provide a glimpse of the actual situation. Furthermore if the experience of developing countries mirrors that of the developed world, a disproportionate amount of health sector resources may be spent in the last year of life.

Table 1 shows the total number of deaths and proportion of deaths by age group experienced by nine countries in Latin America and the Caribbean basin compared with Canada, a regional developed country parameter. Dying in all these countries is increasingly becoming an old age experience. Canada leads the way with close to three-quarters of deaths occurring after the age of 65 years, an experience that countries such as Argentina, Uruguay, Puerto Rico and Cuba will soon achieve if recent trends in mortality are maintained. With the exception of Mexico and Venezuela, more than half of the deaths in all countries in the regions occur in people over 65 years of age, at least two-thirds of them after the age of 55 years. The concentration of deaths in old age is more pronounced in females than in males in all the countries selected, with the exception of Cuba. A slightly higher proportion of male deaths occurs after the age of 75 years in Cuba than in Canada, while for females the difference is firmly in the opposite direction.

Overall causes of death

The main causes of death in the ten countries selected for examination here are given in Table 2. In Canada over two-thirds of all deaths are caused by diseases of the circulatory system (CSD) and cancer; respiratory diseases are responsible for close to 10% of the deaths, and external causes for 7.2%. These patterns are rather similar to those observed in Argentina (although the proportion of deaths caused by infectious and parasitic diseases (IPD) is higher than in Canada and that of cancer-related deaths considerably lower); Cuba (where deaths caused by injuries are rather more common than in Canada) and in Uruguay and Costa Rica – both countries with relatively high proportions of ill-defined (including 'senility') deaths. In Chile the proportion of deaths due to CSD and cancer is similar to that in Canada. In Puerto Rico and Trinidad and Tobago these six main cause groups are responsible for just over 70% of the total deaths; much of the remainder is due to deaths caused by 'metabolic' diseases (mainly diabetes): 11.1% and 13.2% in Puerto Rico and Trinidad and Tobago respectively. In Canada, by

Table 1 Proportional mortality by age group in selected American countries in 1988; total deaths, both sexes (figures are percentages)

Country	Total no. of deaths	Percentage of all deaths				
		Age group (years)				
		<15	15–54	55–64	65–74	75+
Canada	190 011	2.2	12.2	13.0	23.2	49.3
Argentina	247 868	9.1	15.8	15.0	21.7	38.4
Uruguay	29 621	5.0	12.8	14.8	22.0	45.3
Chile	70 559	9.8	19.3	13.7	20.6	36.5
Costa Rica	10 944	15.1	20.0	11.0	17.2	36.6
Mexico	391 561	23.0	26.8	11.0	12.8	26.4
Venezuela	80 991	22.0	24.9	12.8	15.9	24.3
Puerto Rico	25 985	4.7	20.4	11.8	20.1	43.0
Cuba	67 944	5.1	19.1	12.0	20.1	43.7
Trinidad and Tobago	8 036	6.8	22.2	15.2	23.6	32.1

Source: World Health Statistics, 1989, 1990, 1991.

contrast, metabolic diseases were responsible for just over 2% of the deaths. In Mexico, 6% of deaths are attributed to diabetes and a further 7% to problems originating in the perinatal period (which accounts for virtually 10% of deaths in Venezuela).

To a large extent these differences in patterns of mortality reflect differences in age-structure. Specific environmental risk factors also play a part and account for the much higher proportions of deaths caused by IPD, particularly in Mexico and Venezuela, as well as those caused by injuries (both countries previously mentioned as well as Chile, Costa Rica and Cuba).

Age- and sex-specific mortality rates

Table 3 presents the age-specific death rates for three older age groups (55–64, 65–74 and 75+ years) for males and females in 1988 for the ten countries considered in this analysis. The rates for Canada are, on the whole, at the lower end of the range. All in all these countries can be grouped as follows:

i) Canada: with very favourable death rates, particularly amongst women.
ii) Argentina, Uruguay and Chile (the 'Southern Cone' countries) with relatively low rates for women and high rates for men.
iii) Mexico, Puerto Rico and Venezuela with middle to low rate for both males and females.
iv) Cuba and Costa Rica with particularly low rates for men (except for the very old in Costa Rica) and middle to low rates for females.
v) Trinidad and Tobago with particularly high death rates for both men and women in the three age groups considered.

The overall conclusion from comparing age- and sex-specific death rates for older adults in these ten countries of the Americas is that Canada, the most developed, enjoys very favourable rates, particularly amongst women and very old men. However, the differentials between the nine

Table 2 Main causes of death in selected American countries in 1988; all ages, both sexes considered. Percentages are given in parentheses.

Country		Cause of death						
	Total no. of deaths	IPD	Cancer	CSD	Respiratory system diseases	External causes	Ill-defined	Cumulative % age
Canada	190 011	1 123 (0.6)	50 756 (26.7)	78 392 (41.2)	18 157 (9.7)	13 628 (7.2)	3 122 (1.6)	(87.0)
Argentina	247 868	8 303 (3.3)	43 729 (17.6)	111 366 (44.9)	16 333 (6.6)	16 490 (6.6)	5 591 (2.2)	(81.2)
Uruguay	29 621	558 (1.9)	6 858 (23.3)	11 536 (39.1)	2 198 (7.4)	1 978 (6.7)	1 786 (6.0)	(84.4)
Chile	70 559	2 401 (3.4)	13 081 (18.5)	19 358 (27.4)	7 902 (11.2)	8 407 (11.9)	5 733 (8.1)	(80.5)
Costa Rica	10 944	337 (3.1)	2 328 (21.3)	3 162 (28.9)	1 127 (10.3)	1 219 (11.1)	1 219 (11.1)	(85.8)
Mexico	391 561	43 597 (11.1)	35 930 (9.2)	73 166 (18.7)	41 669 (10.7)	62 544 (16.0)	13 948 (3.6)	(69.3)
Venezuela	80 991	5 558 (6.9)	9 431 (11.7)	20 196 (25.0)	5 893 (7.3)	10 915 (13.5)	10 705 (13.2)	(77.6)
Puerto Rico	25 985	559 (2.1)	3 989 (15.4)	9 124 (35.2)	2 769 (10.7)	2 247 (8.7)	157 (0.5)	(72.6)
Cuba	67 944	921 (1.3)	12 977 (19.1)	29 593 (43.6)	5 900 (8.7)	8 278 (12.2)	151 (0.2)	(85.1)
Trinidad and Tobago	8 036	199 (2.5)	1 047 (13.0)	3 046 (37.9)	551 (6.8)	637 (7.9)	179 (2.2)	(70.9)

IPD, infections and parasitic diseases; CSD, circulatory system diseases.
Source: World Health Statistics 1989, 1990, 1991.

developing countries are quite considerable. For instance, the range for death rates in the male group aged 55–64 years is between 1116.9 (Costa Rica) and 2139.7 (Trinidad and Tobago) and for the group aged 65–74 years, between 2994.2 and 4850.0, yet in the group aged over 75 years the death rates are between 10 525.1 (Venezuela) and 12 935.7 (Costa Rica, the country with the lowest rates in the two younger age groups). For females, the range is not so extreme once Trinidad and Tobago is excluded from the comparison. (Trinidad and Tobago, of course, has a very small population and random fluctuations in deaths (and death rates) may be considerable. There may also be differences between the countries in the quality of the data.)

Cerebrovascular disease

Table 4 shows the age-specific death rates for cerebrovascular disease by selected countries. It is apparent that in the group aged 55–64 years, death rates from cerebrovascular diseases in countries such as Argentina, Chile, and Trinidad and Tobago are higher than the rates of Canadians in the *next* age group (aged 65–74 years). These figures not only demonstrate the relatively low rate of cerebrovascular disease in Canada compared to Latin American and Caribbean countries, but also the 'premature' aging that is occurring in these countries.

The data assembled for this paper clearly indicate that in the nine low mortality developing countries selected, patterns of mortality are increasingly resembling those that prevail in the developed world. Comparisons with Canada provide strong evidence that this is the case. On the whole, it is likely that the same patterns are being followed with a relative delay. Furthermore, changes in mortality rates in older age groups are also following the patterns familiar to developed countries. Individual differences do exist – and generally reflect different stages of the health transition, more advanced in, say, Cuba, Puerto Rico and Uruguay than, for instance, in Mexico or Venezuela.

Broadly speaking, mortality rates for the three age groups considered in this paper are on the decline in these countries. Deaths caused by IPD are now extremely rare after the age of 55 years. Also in decline are deaths attributed to ill-defined causes. Overall, cancer deaths are decreasing largely due to declines in mortality rates caused by stomach and cervical cancer, while other cancers (such as prostate and breast) are increasing. It is encouraging that, in contrast to Canada, lung cancer has not increased as much as it might have been expected in some of these countries, at least among males.

Table 3 Age-specific death rate for males and females aged 55–64; 65–74 and 75+ years for selected countries in 1988; all deaths

Country	Age (years)					
	55–64		65–74		75+	
	M	F	M	F	M	F
Canada	1390.1	729.3	3474.7	1771.1	10 148.3	7 133.6
Argentina	1943.9	903.9	4156.5	2185.8	11 575.4	9 485.4
Uruguay	2003.4	861.3	4220.5	2161.0	12 000.0	10 014.6
Chile	1590.0	940.6	4028.2	2448.8	12 007.5	9 586.3
Costa Rica	1116.9	767.9	2994.2	2116.3	12 935.7	9 290.2
Mexico	1606.4	1072.2	3177.3	2290.7	10 894.0	9 590.8
Venezuela	1599.8	1008.4	3651.0	2518.8	10 525.1	9 333.6
Puerto Rico	1627.0	850.7	3485.4	2086.3	10 686.5	9 102.6
Cuba	1333.9	972.4	3041.5	2320.8	10 708.1	9 555.7
Trinidad and Tobago	2139.7	1589.6	4850.0	3460.6	12 478.7	11 330.6

M, male; F, female.

Population aging and public health

Not only has the aging process now been 'artificially' compressed into a few decades (in the sense that means now available to control births and premature death reflect technological advancements and are not necessarily results of socialeconomic development) but this trend is developing in parallel to substantial changes in society.[6] These changes, by and large, do not favour traditional forms of caring for the elderly in the community and are, on the whole, irreversible.[7] Population shifts towards urban areas are unlikely to be reversed. There is increased participation of women in the work force, and there is a clear trend towards nuclear families. The rapid spread of information through the media, powerfully influencing attitudes and expectations, is also contributing to these processes. In addition, there are specific problems of those who are old today or who will be old in the near future. They are the survivors of generations who received poor education, were often under-nourished in earlier life, suffered from multiple infectious diseases and had little opportunity to share the benefits of the 'modernization' process occurring around them (in particular, they are not equipped to compete for jobs, even if they were to be made available to them, in a more 'technological/sophisticated' society).

Socioeconomic stagnation

The situation is further aggravated when such countries experience periods of social and economic stagnation, as has been the case in many Latin American and Caribbean countries in recent years. Table 4 shows economic indicators for selected countries in this region in the period 1965–1990; of particular importance is the decline of Gross National Product (GNP) *per capita* experienced by most of them in the 1980s.[4] In fact, recent data show that of all Latin American countries, Colombia was the only one to have experienced real GNP growth over the period between 1980 and 1992.[8] Furthermore, persistently high inflation rates in some of these countries have greatly eroded the value of the pensions and of economic assets/savings of elderly people in the region. In times of hardship and recession, the most vulnerable population groups are the ones to suffer most and first. And, as in most societies, amongst the poorest of the poor in the region are the elderly, the poorest of all being elderly women.[9]

Public health priorities

This complex context bears fundamental implications for those concerned with social policies in general, and public health in particular. Health services are still largely geared towards 'curative' acute services. Most of the resources are spent in

Table 4 Age-specific death rate for males and females aged 55–64; 65–74 and 75+ years for selected American countries in 1988; cerebrovascular disease

Country	Age (years)			
	55–64		65–74	
	M	F	M	F
Canada	49	36	176	119
Argentina	190	107	439	275
Uruguay	138	95	381	278
Chile	148	99	446	307
Costa Rica	73	43	230	261
Mexico	76	65	211	171
Venezuela	116	92	324	270
Cuba	134	119	297	277
Trinidad and Tobago	270	176	650	490

M, male; F, female.
Source: World Health Statistics, 1991.

hospital and institutional care, with little attention being paid to health promotion and disease/disability prevention.[10] Services are still classified according to an old-fashioned dichotomy between 'institutional' and 'community' services – the latter represented by an underdeveloped primary care sector.[11] In the process, the dimensions which are most important for the elderly (i.e. self care and informal care) are virtually totally neglected. In addition, 'health' services are dissociated from 'social' services – as if in old age these boundaries could be clearly defined. The ultimate objective should be to keep in the community for as long as possible the greatest number of elderly people enjoying the highest possible quality of life.[12] Instead, resources are used in an *ad hoc* fashion – solutions given to particular problems in the absence of a comprehensive analysis of the whole context.[13]

Demographic projections indicate that there will be unprecedented increases in the absolute and relative numbers of elderly people in the region within the next few decades[14] – far exceeding the increases in countries which completed the demographic transition earlier. Some of these elderly will be fit and healthy and may only experience serious morbidity and functional disability close to death. However, a considerable proportion will survive to a great old age with various degrees of loss of independence and autonomy.

Very often the debate encircling aging-related issues follows a negative – even apocalyptical – view; the tidal wave which will drown us all.[15] It need not be so. In the first place, survival to old age for large segments of the population is a triumph of mankind.[16] The fact that this was once a privilege of a few, but is now becoming a universal experience in such a short period, is an extraordinary achievement to be celebrated rather than deplored. How future gerontologists describe our adaptation, successful or otherwise, to the new demographic order depends on what policies are pursued now. The key issue is family life. Throughout the continent, research findings indicate that family ties are still strong, that the

Table 5 Economic indicators for Latin American and the Caribbean countries with a population of over one million, 1992

Country	Indicator				
	GNP – *per capita* (US$)	GDP – annual growth rate (%) 1965–1980	GDP – annual growth rate (%) 1980–1990	Average annual population growth 1980–1990	Average annual inflation rate (%) 1980–1990
Haiti	370	2.9	−0.6	1.9	7.2
Honduras	590	5.0	2.3	3.4	5.4
Bolivia	630	4.4	−0.1	2.5	317.9
Dominian Rep.	830	8.0	2.1	2.2	21.9
Guatemala	900	5.9	0.8	2.9	14.6
Ecuador	980	8.8	2.0	2.4	36.6
El Salvador	1110	4.3	0.9	1.4	17.2
Paraguay	1110	7.0	2.5	3.2	24.4
Peru	1160	3.9	−0.3	2.3	233.9
Columbia	1260	5.7	3.7	2.0	24.8
Jamaica	1500	1.4	1.6	1.3	18.3
Panama	1830	5.5	0.2	2.1	2.3
Costa Rica	1900	6.3	3.0	2.4	23.5
Chile	1940	1.9	3.2	1.7	20.5
Argentina	2370	3.4	−0.4	1.3	395.2
Mexico	2490	6.5	1.0	2.0	70.3
Venezuela	2560	3.7	1.0	2.7	19.3
Uruguay	2560	2.4	0.3	0.6	61.4
Brazil	2680	9.0	2.7	2.2	284.3
Trinidad and Tobago	3610	4.8	−4.7	1.3	6.4

GNP, Gross national product; GDP, gross domestic product.
Source: The World Development Report, World Bank, 1992.

bulk of care is provided by relatives and that their willingness to perform what they perceive as their 'duty' is, on the whole, firmly in place.[10,17–21]

However, some groups are particularly vulnerable and deserve special attention – for instance, elderly carers often typified by old, frail women having to provide most of the care for their husbands and/or parents.[22] Also very important is the increasing number of elderly living alone – often in poverty and bad housing. The established cultural pattern throughout the region of women marrying older men and yet having a substantially higher life expectancy inevitably leads to long periods of female widowhood. As older women are much less likely to be protected by adequate social security policies, they often face ten, fifteen, or even more years of virtual destitution. Special schemes to provide them with some protection are urgently required and should be properly evaluated.

Elderly women – the example of Chile

Take, for instance, the example of elderly women in Chile. According to the results of a recent multidimensional survey carried out using a representative sample of people living in midsized or large towns (where over 50% of the total population live), elderly women are particularly vulnerable.[23] In common with many other Latin American and Caribbean countries,[24] the current cohort of elderly women in Chile includes a high proportion (12.1%) who never married. Additionally, close to 44% had already lost their spouses (compared to 13% of elderly men). The percentage of elderly women who stated they lacked friends was 43% and more than a quarter of those who lived with relatives declared that they were not satisfied with their relationship with them. The percentage of elderly men who reported not needing help for any of the activities of daily living was invariably higher than that reported by elderly women – who were also less likely to be satisfied with the help received. In addition, the percentage of 'frail' elderly women was higher than that of the opposite sex.

Migration and urbanization

Aging in the American continent can hardly be understood without reference to migration. The great majority of the elderly today are previous migrants who, for a variety of reasons, left their places of birth far behind both in distance and time. Until the 1950s this region was predominantly a rural one: no more than one-third of the total population lived in urban areas; the massive population shifts (from rural to urban, from small to large cities) in the last 40 years have reversed this situation. In countries such as Brazil, Argentina, Chile and Uruguay, at least 80% of the population already live in urban areas.[4] In the process, most of those now old and/or aging in urban areas are previous rural migrants, poor peasants who may still be finding life difficult in the cities – particularly with recession and unemployment. However, those who migrated have often left behind older relatives who do not have the physical help from their children, nor can they count on financial support, as their children are often unemployed and trapped in poverty in urban areas, sometimes thousands of kilometres away.

Resource allocation and social security

Even for the wealthiest societies which experienced population aging occurring fairly gradually and over a relatively long period of time, the impact of this new demographic order has been enormous. By and large, they are still trying to adapt to it.[25,26] For poorer countries the challenges are and will continue to be even more formidable. The classical problems associated with underdevelopment are yet to be solved – poor sanitation, unemployment, illiteracy, massive urbanization, to name a few. However, these populations will now have to compete for scarce resources with the problems associated with the rapid aging of the population.[5] Altogether new and imaginative solutions are urgently required.

The dilemma in resource allocation can be clearly illustrated by the situation in Brazil. According to a World Bank study, by the mid1980s, the 9% of the Brazilian population aged 55 years and over absorbed 44% of the social benefits (mostly through pension and health

care) provided by the Government while the 36% under 15 years of age received only 28% of social benefit expenditure. Furthermore, those most in need had a disproportionately low share of these benefits: for instance, the 41% of the population with an income per household below half the minimum salary were the recipients of 20% of the social benefits, while the share was 34% for the 16% who received more than two minimum salaries per member. For the poorest section of the population the *per capita* social benefit was just over US$ 100.00, while for the richest section it was close to US$ 800.00. Altogether, a clear problem of inequity emerges, a small minority of older citizens are the main beneficiaries of the public sector programmes, and it is the richer older population who receive most of the benefits.[27] All this points to the urgent need for realistic and affordable policies for the care of the elderly.[28]

The situation in Brazil typifies that in other countries in the region. A sound basis for development will only be achieved if resources are allocated to these countries' future: health care and education for their young populations. Already this is being prevented by policies which favour the most affluent of the older citizens – while those most in need continue to be neglected.[29] By the year 2010 the proportion of people over 55 years old is expected to double,[30] if by then we have not developed more appropriate, fairer and realistic social policies, virtually all the resources/social benefits will be taken by this segment of the population. This will obviously seriously hamper any prospect of social development for many years to come.[31]

In Argentina, the country in Latin America which first started adopting Western models of social security and (together with Uruguay) first experienced population aging, the monthly state pension bill is 7% of the GNP – compared to 1% in Mexico, a similar country in population and economic terms.[32] Thus, even for Argentina, one of the richest countries in Latin America, the costs of providing Western-types of social security in old age are already becoming unsustainable. Well-conducted studies have shown that poverty in this continent is the major risk factor for poor ill health and well-being in old age[18] as well as for poor mental health status.[19] However, the emerging evidence seems to indicate that the best way of tackling the problem of poverty in old age is by providing support (financial as well as other forms) to elderly families.[33]

Conclusions

The difficulties outlined in this paper associated with the aging of the population in the region are compounded by the lack of adequate information systems which could inform decision-makers on the best course of action for specific problems. This lack of 'quality data' also prevents the long-term evaluation of interventions; in the absence of baseline data measuring their impact, such interventions become fruitless exercises. Thus, the whole planning process needs to be regarded in a more logical and scientific way – from setting objectives to examining alternative solutions, from measuring outcomes to monitoring development and long-term evaluation.[16] All this requires proper training within a multi-disciplinary and continuing perspective; the epidemiological approach is of particular relevance in all this if the region is going to care and provide successfully for its aging population.

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